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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ronald A. Holland

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EXAMINER

SCHARICH, MARC A

ART UNIT

PAPER NUMBER

3611

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DELIVERY MODE

06/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/691,951	Applicant(s) HOLLAND, RONALD A.	
	Examiner Marc A. Scharich	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/18/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 67-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 67, 70-73, 75 and 79 is/are rejected.
- 7) ☒ Claim(s) 68, 69, 74, 76-78, 80 and 81 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1,4,5,70,72-74, and 76-81 are objected to because of minor informalities, which include limitations lacking sufficient antecedent basis, consistency, clarity, and improper claim dependency. In order to resolve the minor informalities, the examiner *suggests* amending the claims as follows:

Claim 1

Line 8 should be *amended to* -- of said motor, whereby the motor sprocket rotates with the a same angular velocity as the --

Lines 16-20 should be *amended to* -- transferring rotary motion from said pedal crank assembly to said motor sprocket, but not from said motor sprocket to said pedal crank assembly, whereby said vehicle can be driven either by said pedal crank assembly through said motor sprocket or by said motor alone without turning said pedal crank assembly, or by both said pedal crank assembly and said motor in unison. --

Claim 4

Claim 4 should be *amended to* -- 4. The electric drive bicycle of Claim 2, wherein said multi-speed hub has two or more sprockets on a freewheel, and a corresponding derailleur that can shift the drive chain to engage any of said sprockets. --

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Claim 5

Claim 5 should be *amended to* -- 5. The electric drive vehicle of Claim 1, wherein said electric motor is slow speed and gearless, and wherein said motor is in electrical communication with an electrical power source, whereby said pedal crank assembly can efficiently drive said motor for recharging the electrical power source. --

Claim 70

Claim 70 should be *amended to* -- 70. The electric drive vehicle of Claim 1, wherein said electric motor turns at approximately 260 RPM ~~motor~~ in a bicycle traveling at 20 miles per hour. --

Claim 72

Line 7 should be *amended to* -- a pedal sprocket attached to the pedal crank assembly; and --

Claim 73

Line 3 should be *amended to* -- a drive sprocket uni-directionally connected to the said rotatable assembly, --

Line 6 should be *amended to* -- a pedal sprocket attached to the pedal crank assembly; and --

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Claim 74

Claim 74 should be *amended to* -- 74. The electric drive vehicle of Claim 73 ~~[[1]]~~, wherein said electric motor is mounted to the frame using slots to allow adjustment of tension of the pedal chain. --

Claim 76

Line 2 should be *amended to* -- a ~~second~~ hub freewheel rotationally connected to said wheel hub; --

Line 3 should be *amended to* -- a second hub sprocket attached to the ~~second~~ hub freewheel, wherein a forward --

Line 8 should be *amended to* -- a ~~third~~ regenerating chain connecting the second hub sprocket and the second motor --

Claim 77

Line 7 should be *amended to* -- a ~~third~~ regenerating chain connecting the second hub sprocket and the second motor --

Claim 78

Line 5 should be *amended to* -- ~~an~~ a hub motor comprising a motor axle and an outer case, said motor axle --

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Line 7 should be amended to -- a motor sprocket rotationally fixed ~~fixedly~~ attached to said outer case; --

Lines 13-17 should be amended to -- assembly for transferring rotary motion from said pedal crank assembly to said motor sprocket, but not from said motor sprocket to said pedal crank assembly, whereby said vehicle can be driven either by said pedal crank assembly through said motor sprocket or by said motor alone without turning said pedal crank assembly, or by both said pedal crank assembly and said motor in unison. --

Claim 79

Line 5 should be amended to -- wheel through a third hub freewheel wherein forward rotational motion is transmittable from --

Line 11 should be amended to -- a drive chain connecting said motor sprocket and [[a]] said at least one hub --

Line 19 should be amended to -- a pedal sprocket attached to said pedal crank assembly; and --

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Lines 21-23 should be amended to -- whereby said vehicle can be driven either by said pedal crank assembly through said motor sprocket or by said motor alone without turning said pedal crank assembly, or by both said pedal crank assembly and said motor in unison. --

Claim 80

Line 9 should be amended to -- a drive chain connecting said motor sprocket and [[a]] said at least one hub --

Line 16 should be amended to -- a pedal sprocket attached to said pedal crank assembly; and --

Lines 18-20 should be amended to -- whereby said vehicle can be driven either by said pedal crank assembly through said motor sprocket or by said motor alone without turning said pedal crank assembly, or by both said pedal crank assembly and said motor in unison. --

Claim 81

Line 5 should be amended to -- an a hub motor comprising a motor axle and an outer case, said motor axle --

Line 7 should be amended to -- a motor sprocket rotationally fixed ~~fixedly~~ attached to said outer case; --

Lines 14-20 should be amended to -- transmittable from the drive sprocket to said motor sprocket ~~rotatable assembly~~ but not from said ~~rotatable assembly~~ motor sprocket to said drive sprocket; a pedal sprocket attached to said pedal crank assembly; and a pedal chain connecting the pedal sprocket to said drive sprocket, whereby said vehicle can be driven either by said pedal crank assembly through said motor sprocket or by said motor alone without turning said pedal crank assembly, or by both said pedal crank assembly and said motor in unison. -- Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4,72,73, and 75 are rejected under 35 U.S.C. 102(b) as being anticipated by Rudwick, U.S. Patent No. 4,280,581. Rudwick discloses essentially all that is claimed, including an electric drive bicycle (Fig. 1) comprising: a frame (1); a rear wheel (6), having a multi-speed hub [rear wheel cluster] (26) with sprockets (i.e. 25) on a freewheel [unnumbered – shown in Fig. 2] and a corresponding derailleur (17) that can shift a drive chain (10) to engage the sprockets (i.e. 25), the rear wheel (6) rotatably mounted to the frame (1); an electric dc motor (2), having a rotatable assembly [consisting of gear reducer (3),

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output shaft (12), and overrunning clutch (13)] and a fixed assembly [motor housing structure], the fixed assembly attached to the frame (1); a motor sprocket (15) rotationally locked to the rotatable assembly [when *forward rotation* of the output shaft (12) and overrunning clutch (13) occurs] of the motor (2), whereby the motor sprocket (15) rotates with a same angular velocity as the rotatable assembly [due to motor sprocket (15) being directly connected to an outer part of overrunning clutch (13)]; the drive chain (10) connecting the motor sprocket (15) and at least one of the sprockets on the multi-speed hub for transferring rotary motion from the motor sprocket (15) to at least one of the sprockets on the multi-speed hub; a pedal crank assembly [consisting of pedals (16) and front chain wheel (8)] rotatably mounted on the frame (1); a uni-directional drive connecting the motor sprocket (15) and the pedal crank assembly [via chain (9)] for transferring rotary motion from the pedal crank assembly to the motor sprocket (15), but *not* from the motor sprocket (15) to the pedal crank assembly {Col. 5, lines 61-68 and Col. 6, lines 1-2}, whereby the bicycle can be driven either by the pedal crank assembly *through* the motor sprocket (15) or by the motor (2) alone without turning the pedal crank assembly, or by both the pedal crank assembly and the motor (2) in unison {Col. 6, lines 49-61}; and the uni-directional drive comprises a freewheel [overrunning clutch (30)] connected to part of the rotatable assembly [overrunning clutch (13) and output shaft (12)]; a drive sprocket (14) uni-directionally connected to the freewheel (30), wherein a forward rotation is transmittable from the drive sprocket (14) to the rotatable assembly but *not* from the rotatable assembly to the drive sprocket

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(14) {Col. 5, lines 66-68 and Col. 6, lines 1-2}; a pedal sprocket (8) attached to the pedal crank assembly; and a pedal chain (9) connecting the pedal sprocket (8) to the drive sprocket (14).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rudwick in view of Hartmann, U.S. Patent No. 4,770,433. Rudwick discloses what is discussed above, but *fails* to specifically disclose the rear multi-speed hub as having *internal* gears, while Hartmann illustrates an *enclosed* rear wheel multi-gear hub (38) (Fig. 2) that contains gearing for a twelve-speed transmission, thus containing *internal* gears. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Hartmann, to utilize an enclosed multi-speed gearing configuration while protecting the shift gears from outside elements and environmental conditions, thus increasing the effective operation and longevity of the rear multi-speed transmission.

Claims 5, 67, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rudwick in view of Eguchi, U.S. Patent No. 6,320,336.

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Rudwick discloses what is discussed above, but fails to specifically disclose the electric dc motor as a gearless hub motor, and an electric power source [battery] that can be recharged. Eguchi, however, discloses a bicycle with a direct-drive (i.e. gearless) electric motor (4) that appears to be a hub motor (see Fig. 17) and a power assisting function and arrangement. The power assisting arrangement includes the electric motor (4) and a rechargeable battery (13) {Col. 7, lines 58-67} recharged through a regenerative process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this configuration, as shown in Eguchi, to provide another, functionally equivalent electric motor for various power-assisting applications on the bicycle, thus increasing applicability. The type of motor is immaterial so long as it operates to provide the desired or required power for necessary operation.

Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rudwick, as applied above. Rudwick discloses what is discussed above, but *fails* to specifically disclose or suggest that the electric motor turns at approximately 260 RPM when the electric bicycle travels at 20 miles per hour. It is very obvious, however, that depending on the desired design and application of the bicycle, such permanent magnet-type electric motors (as Rudwick suggests) could indeed turn at approximately 260 RPM when the electric bicycle travels at 20 miles per hour depending on how the bicycle is designed and how the motor is reduced via a reduction gear box. The arbitrary selection of gear reduction boxes in conjunction with the arbitrary selection of electric motors would dictate how many RPMs a motor would turn at a given speed. It would

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therefore have been obvious to one having ordinary skill in the art at the time of the invention to select, during the design process of the electric bicycle, the required gear reduction box in conjunction with the required electric motor in order to enable the motor to turn at a desired approximate amount of 260 RPM when the bicycle travels at 20 miles per hour.

Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rudwick, as applied above. Rudwick discloses what is discussed above, but *fails* to specifically disclose or suggest [regarding the multi-speed hub sprockets] forward rotational motion being transmittable from the at least one hub sprocket to the rear wheel, but not from the rear wheel to the at least one hub sprocket. It is extremely well known that on modern bicycles having rear wheel multi-speed hubs, a forward rotation of a hub sprocket will drive the rear wheel of the bicycle [i.e. during pedaling], *however*, the bicycle rear wheel may still tend freewheel and *not* turn the sprocket [such as when hearing a “clicking” noise] when the bicycle, for instance, is suspended off of the ground and the rear wheel begins to freely rotate while the hub sprocket does not. It is therefore well known, and would have been very obvious to one having ordinary skill in the art at the time of the invention, to include such a configuration on a bicycle, such as the electric bicycle that Rudwick discloses, to have a rear multi-speed hub wherein forward rotational motion is transmittable from the at least one hub sprocket to the rear wheel, but not from the rear wheel to the at least one hub sprocket.

Allowable Subject Matter

4. Claims 68-69, 74, and 76-77 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Independent claims 78, 80, and 81 would be allowable if the objections, as discussed above, are overcome.

Response to Arguments

5. Applicant's arguments filed 12/18/2006 have been fully considered by the examiner but they are not persuasive. *As still broadly and reasonably interpreted*, the newly added and amended claims, filed 12/18/2006, do not overcome the base prior art reference (Rudwick) for the reasons clearly discussed in the above 35 U.S.C. 102(b) and 103(a) rejections. Mainly the *broad* term "rotatable assembly", in independent claims 1 and 79, does not overcome the disclosed rotating motor (2), gear reducer (3), output shaft (12), overrunning clutch (13), and sprocket (15), as a combination of such elements broadly and reasonably comprises a "rotatable assembly".

Conclusion

6. Applicant's amendment necessitated the newly modified ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

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filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A. Scharich whose telephone number is (571) 272-3244. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service

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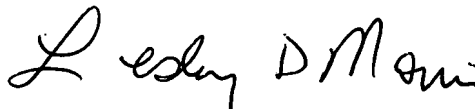
Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

M.A.S. – 5/10/2007



Marc A. Scharich
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